

# Biological Resource Centres (BRCs): European and Global Projects

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BRCs are considered to be one of the key elements for sustainable international scientific infrastructure, which is necessary to underpin successful delivery of the benefits of biotechnology, whether within the health sector, the industrial sector or other sectors, and in turn ensure that these advances help drive economical growth. In more detail, BRCs are defined by OECD as service providers and repositories of the living cells, genomes of organisms, and information relating to heredity and functions of biological systems. BRCs contain collections of culturable organisms (e.g. microorganisms, plant, animal cells), replicable parts of these (e.g. genomes, plasmids, virus, cDNAs), viable but not yet culturable organisms, cells and tissues, as well as database containing molecular, physiological and structural information relevant to these collections and related bioinformatics (OECD, 2001). Thus BRCs are fundamental to harnessing and preserving the world's biodiversity and genetic resources and serve as an essential element of the infrastructure for research and development. BRCs serve a multitude of functions and assume a range of shapes and forms. Some are large national centres performing a comprehensive role providing access to diverse organisms. Other centres play much narrower, yet important, roles, supplying limited but crucial specialised resources.

BRCs are considered as the next generation culture collections. In an era of globalisation, the OECD BRC initiative to establish the virtual infrastructure Global Biological Resource Centre Network (GBRCN) is essential and requires collections to meet the GBRCN operational standards (OECD, 2007). No single collection can provide the needs of biotechnology and bioeconomy and so a collaborative approach is absolutely necessary. The culture collections have worked for a long time in organisations at global (WFCC – World Federation of Culture Collections) or regional levels (e.g. European Culture Collections' Organisation (ECCO) and Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM). They have shared biodiversity information at national, European or global levels. However, to guarantee high-quality BRCs and global network efficiency, the transition of traditional culture collections to BRCs is needed to be based on international quality management criteria.

For culture collections to work altogether in a network, they need policies and legal frameworks at international, regional and national levels to establish, enhance and develop collections and create BRCs around the world. A strategic project to develop BRCs at European level is the FP7-project EMbaRC-European Consortium for Microbial Resources Centres and at a global level the ongoing demonstrative project GBRCN-Global Biological Resource Centres Network. Micoteca da Universidade do Minho (MUM) is partner in both projects and envisages coordination of policy and legislation developments for accreditation and protection of biological resources and their sustainable utilisation.

## References

- OECD. (2001). Biological Resource Centres. Underpinning the future of life sciences and biotechnology, pp.: 1-66.,  
OECD. (2007). Best Practice Guidelines for Biological Resource Centres, pp.: 1-115.

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